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**REMARKS**

The present amendment is prepared in accordance with the requirements of 37 C.F.R. § 1.121. A complete listing of all the claims in the application is shown above showing the status of each claim. Applicants appreciate the thoroughness with which the Examiner has examined the above-identified application. Reconsideration is requested in view of the remarks below.

For purposes of appeal, no claims have been amended.

No new matter has been added.

**Allowable Subject Matter****Claims 10-16**

Applicants appreciate the allowance of claims 10-16.

**Claim Rejections - 35 USC § 102/103**

The Examiner has rejected claims 1-3, 6-9, 17-18 and 21-23 under 35 U.S.C. 102(b) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Koslow (U. S. Patent No. 6,015,608). The Examiner has also rejected claims 4-5, 19-20 and 24-25 under 35 U.S.C. 103(a) as being unpatentable over Koslow (U. S. Patent No. 6,015,608). Applicants continue to disagree with the Examiner.

**Claim 1**

Independent claim 1, and claims 2-9 dependent thereon, are directed to a composite that includes a first substrate and a bonded mixture. The bonded mixture includes a mixture of binder particles and super-absorbent polymer particles. These binder particles are on average smaller than the super-absorbent polymer particles, and at least some of these binder particles coalesce at least some of the super-absorbent polymer particles to each other and to the substrate. The composite also includes a

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three-dimensional array of elongated channels, which are formed after the super-absorbent polymer particles contact a liquid. That is, the *composite also contains a liquid*. These three-dimensional array of elongated channels promote liquid acquisition into the composite along the three-dimensional array of elongated channels prior to liquid absorption by the super-absorbent polymer particles.

Claim 17

Independent claim 17, and claims 18-20 dependent thereon, are directed to a liquid absorbent pad that includes an outer layer of a substantially liquid-impervious material having an outer surface and an inner surface, and at least one composite segment positioned on such inner surface. The composite segment includes a first substrate and a bonded mixture. The bonded mixture includes a mixture of binder particles and super-absorbent polymer particles. These binder particles are on average smaller than the super-absorbent polymer particles, and at least some of these binder particles coalesce at least some of bonded mixture to the substrate. The composite segment also includes a three-dimensional array of elongated channels after this composite segment is contacted with a liquid. Once again, the *composite of this liquid absorbent pad includes a liquid*. The liquid absorbent pad also includes a liquid-permeable acquisition layer in liquid communication with the composite segment. At least a portion of the outer layer and liquid-permeable acquisition layer are directly or indirectly attached, such that the composite segment is sandwiched therebetween.

Claim 21

Independent claim 21, and claims 22-25 dependent thereon, are directed to a liquid absorbent pad. The liquid absorbent pad includes a substantially liquid-impervious material having an outer surface and an inner surface. A composite is

positioned on this inner surface. The composite includes a first substrate and a bonded mixture that includes a mixture of binder particles and super-absorbent polymer particles. These binder particles are on average smaller than the super-absorbent polymer particles, whereby at least some of the binder particles coalesce at least some of the bonded mixture to the first substrate. The liquid absorbent pad also includes a three-dimensional array of elongated channels within the composite when this liquid absorbent pad is contacted with a liquid. That is, the *liquid absorbent pad includes a liquid.*

Koslow U. S. Patent No. 6,015,608

Koslow U. S. Patent No. 6,015,608 is directed to a liquid absorbent pad having a plurality of liquid-absorbent laminated segments that include super-absorbent particles, whereby the segments are separated from one another and liquid dams between them prevent water-swollen particles from migrating throughout the pad. Abstract. The structure illustrated in FIG. 1 comprises an outer layer 10 of a liquid impervious material having mounted on an inner surface thereof 12 a plurality of laminate segments, such as strips 14a-c, that are identical in construction. (Column 2, lines 29-37.) These laminate strips 14a-c are separated from one another by spaces 22. (Column 2, lines 41-42.) Alternatively, rather than strips 14 of laminate, smaller segments, such as squares 30 may be formed. (Column 2, line 65 to column 3, line 3.) In either aspect, a weld extends around these segments, traversing the intermediate spaces 22, to form liquid-impervious dams that prevent migration of water-swollen particles between the strips or between segments of the laminated medium. (Column 2, lines 50-64.)

The Rejections Under 35 USC 102(b)/103(a).

In the above office action, the Examiner has maintained the rejection as set forth in the Office Action dated January 21, 2004. In particular, the Examiner takes the position that claims 1-3, 6-9, 17-18 and 21-23 are anticipated by the above Koslow patent stating that Koslow teaches a liquid absorbent pad (Fig. 1) comprising an outer layer 10 of a liquid impervious material having an outer surface and inner surface 12. The Examiner states that "mounted on the inner surface 12 of the outer layer 10 are a plurality of laminate segments, such as strips 14a-c, separated from one another by spaces 22 creating the Applicant's 'channels'. Each of the strips includes a bottom layer 16 of tissue, an upper layer 18 of tissue, and an intermediate layer 20 of super-absorbent polymer particles bonded to the bottom and upper tissue layers by thermoplastic binder particles, creating the "bonded mixture". The "bonded mixture" has admixture of super-absorbent polymer particles and much smaller particles of thermoplastic binder (col. 1, ll. 30-35)."

Further, on page 4 of the January 21, 2004 Office Action, with respect to claims 1 and 17, the Examiner states that Koslow does not explicitly teach the claimed SAP particles substantially spontaneously form a three-dimensional array of elongated channels upon contact of the composite (claim 17) (i.e., the super-absorbent polymer particles of the composite (claim 1)), with a liquid. Nor does Koslow teach such a three-dimensional array of elongated channels that promotes liquid acquisition into the composite along such channels prior to liquid absorption by the super-absorbent particles. However, in the Examiner's opinion (since Koslow discloses SAP particles), the Examiner takes the position that "it is reasonable to presume that [these] properties are inherent to Koslow." Applicants disagree.

It is submitted that prior art anticipates an invention, rendering it invalid, pursuant to 35 U.S.C. Section 102, if a single prior art reference contains each and every element of the patent at issue, operating in the same fashion to perform the identical function as the patented product. *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). To constitute anticipation, all material elements of a claim must be found in one prior art source, which must be enabling to one skilled in the art. *Akzo N.V. v. U.S. Int. Trade Comm.* 1 USPQ2d 1241 (CAFC 1986), i.e., enable that person to understand the nature and operation of the invention. *In re Spada* 15 USPQ2d 1655 (CAFC 1990). Any degree of physical difference between the patented product and the prior art, no matter how slight, defeats the claim of anticipation. *E.I. Du pont de Nemours & Co. v. Polaroid Graphics Imaging, Inc.*, 706 F. Supp. 1135, 1142, 10 USPQ2d 1579, 1585 (D. Del. 1989), aff'd, 887 F.2d 1095, 13 USPQ2d 1731 (Fed. Cir. 1989). That is, "all of the same elements [must be] found in exactly the same situation and united in the same way . . . in a single prior art reference." *Perkin Elmer Corp. v. Computervision, Corp.*, 732 F.2d 888, 894, 221 USPQ 669, 673 (Fed. Cir. 1984).

Applicant submits that Koslow U. S. Patent No. 6,015,608 makes no disclosure or suggestion of super-absorbent particles that form three-dimensional arrays of elongated channels upon contact with a liquid, nor the composites formed there-from. Rather, it generally discloses SAP particles, which are known in the art (See, column 1, lines 24-45). As such, it is submitted that by reviewing the above Koslow patent, one skilled in the art would not understand the nature and operation of the present invention (i.e., that a particular class of SAP particles exist which form three-dimensional channels upon contact with a liquid), such that Koslow 6,015,608 does

not anticipate the present invention. *Akzo N.V.*, 1 USPQ2d 1241; *In re Spada*, 15 USPQ2d 1655.

As is recited in the present application at page 5, lines 1-5 and 21-25, the prior art includes SAP composites having SAP particles that are not capable of forming the channels of the present invention. In the present invention, applicant has now found that a certain class of SAP particles exist which exhibit the unexpected and novel phenomena of forming three-dimensional arrays of elongated channels upon contact with a liquid, such as SAP grade SP-1224 (specification, page 5, lines 1-5 and page 4, lines 23-27). These different types of non-channel forming and channel forming SAP particles are further demonstrated in Figs. 1-4 of the present application. In particular, Figs. 2 and 4 show a prior art SAP composite having SAP particles that form planar structures upon contact with a liquid, not three-dimensional arrays of elongated channels upon contact with such liquid. On the contrary, Figs. 1 and 3 show a SAP composite of the invention having SAP particles with the now discovered unexpected and novel phenomena of forming three-dimensional arrays of elongated channels upon contact with a liquid.

In view of the specification of the present invention, applicant's claims are all directed to SAP particles that form three-dimensional channels upon contact with a liquid, they are not directed to all types of SAP particles, particularly those that are non-channel forming. *Corning Glass Works v. Sumitomo Electric U.S.A. Inc.*, 9 USPQ2d 1962,1966 (CAFC 1989) ("To read the claim in light of the specification indiscriminately to cover all types of [claimed feature] would be divorced from reality."). It is entirely proper to use the specification to interpret what the patentee meant by a word or phrase in the claim." *Du Pont v. Phillips Petroleum Co.*, 7

USPQ2d 1129, 1131 (CAFC 1988). The Koslow patent does not disclose, or even suggest, the currently claimed class of SAP particles that form three-dimensional channels upon contact with a liquid. In view of the foregoing, applicant submits that Koslow does not disclose all of the same elements in exactly the same situation and united in the same way as is currently claimed, such that Koslow does not anticipate the present invention. *Perkin Elmer Corp*, 732 F.2d at 894, 221 USPQ at 669.

Moreover, within independent claims 1, 17 and 21, it has been positively claimed that the composites have a bonded mixture that includes SAP particles in contact with a liquid such that three-dimensional arrays of elongated channels exist within such composites. See, *Lemelson v. United States*, 752 F.2d 1538, 1551, 224 USPQ 526 (Fed. Cir. 1984) ("Proper claim interpretation requires the consideration of every apparent claim limitation, absent some external evidence suggesting that an apparent limitation is immaterial to the invention."). That is, the recitation of the claimed composites having SAP particles in contact with a liquid, and the three-dimensional channels as a result of such contact, gives life and meaning to the claims, such that these limitations should be taken into consideration. *Corning Glass Works v. Sumitomo Electric U.S.A. Inc.*, 9 USPQ2d 1962, 1966 (CAFC 1989) (words that give "life and meaning" to claim provide positive limitations to the invention claimed.).

The Examiner also states that "mounted on the inner surface 12 of the outer layer 10 are a plurality of laminate segments, such as strips 14a-c, separated from one another by spaces 22 creating the Applicant's 'channels'." It is submitted that these "channels" are structurally different from the presently claimed three-dimensional array of elongated channels. In Koslow, the laminate medium segments are merely separated from one another by spaces 22, whereby welds extend around the segments and

traverse the spaces 22 to form dams that prevent migration of water-swollen particles between the segments. (Column 2, lines 29-42 and 50-64.) As recognized by the Examiner, these segments and spaces of Koslow are formed prior to any liquid contact. On the contrary, the three-dimensional channels of the invention are present only within a wet (i.e., liquid containing) composite.

It is submitted that the end product of the claimed invention is a composite (which is wet) having a particular type of SAP particles in contact with a liquid and the three-dimensional array of elongated channels resulting from such contact, whereby these three-dimensional channels promote liquid acquisition into the composite along the three-dimensional channels prior to liquid absorption by the super-absorbent polymer particles. The structurally different end product of Koslow is a composite containing conventional SAP particles within laminate medium segments separated from one another by spaces 22, and having welding within spaces 22 to form a dam. The end product of the Koslow patent does not have three-dimensional channels that promote liquid acquisition into the composite along such three-dimensional channels prior to liquid absorption by the super-absorbent polymer particles, as is currently claimed. In view of these physical differences between applicant's invention and the product of Koslow, it is submitted that Koslow does not anticipate the present invention. *E.I. Du pont*, 706 F. Supp. 1135, 1142, 10 USPQ2d 1579, aff'd, 887 F.2d 1095, 13 USPQ2d 1731.

Applicants also submit that the present invention is not obvious over Koslow U. S. Patent No. 6,015,608. In the above office action, the Examiner states that the "prior art has met the limitations of a bonded mixture comprising a mixture of binder particles and super-absorbent polymer particles (Koslow, column 2, lines 35-45). The Applicant



has given no other physical limitations for comparison to the prior art for the bonded mixture, therefore, the Examiner assumes that the "spontaneous channel forming" property would be inherent."

Applicant disagrees with the Examiner and submits that a retrospective view of inherency is not a substitute for some teaching or suggestion that supports the selection and use of the various elements in the particular claimed combination. *Smithkline Diagnostics v. Helena Laboratories Corp.*, 859 F.2d 878, 886-87, 8 USPQ2d 1468, 1475 (Fed. Cir. 1988). As the Court of Customs and Patent Appeals pointed out in *In re Spormann*, 363 F.2d 448, 150 U.S.P.Q. 449 (CCPA 1966): "The inherency of an advantage and its obviousness are entirely different questions. That which may be inherent is not necessarily known. Obviousness cannot be predicated on what is unknown." *Spormann*, 363 F.2d at 448, 150 USPQ at 452. The Koslow patent does not teach or suggest a class or particular type of SAP particles that form three-dimensional array of elongated channels upon contact with a liquid, as is currently claimed. In fact, as is supported in applicants' specification, applicant has now found that a certain class of SAP particles does in fact exist that exhibit the unexpected and novel phenomena of forming three-dimensional arrays of elongated channels upon contact with a liquid, such as SAP grade SP-1224 (specification, page 5, lines 1-5 and page 4, lines 23-27, and Figs. 1 and 3).

It is submitted that both the suggestion to make the claimed composition or device or carry out the claimed process and the reasonable expectation of success must be founded in the prior art, not in Applicants' disclosure. *In re Vaech* (CAFC 1991) 20 USPQ2d 1438. The references used by themselves, and not in retrospect, must suggest doing what Applicant has done. *In re Skoll* (CCPA 1975) 187 USPQ 481. Applicant

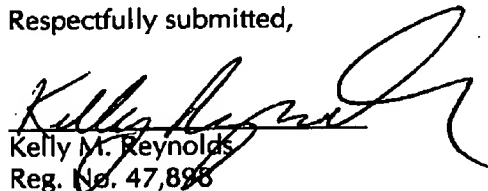
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submits that the Koslow patent does not suggest doing what applicant has done, such that applicant's invention is unobvious and would only be found based on applicant's own disclosure, which, of course, is improper as a hindsight reconstruction of applicant's invention. *Id.*, *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) (Hindsight based on reading of the patent in issue may not be used to aid in determining obviousness). Likewise, hindsight and the level of ordinary skill in the art may not be used to supply a component missing from the prior art references. *Al-Site Corp. v. VSI International, Inc.*, 174 F.3d 1308, 1324, 50 USPQ2d 1161, 1171 (Fed. Cir. 1999).

In view of the foregoing, and under the applicable patent law in this area, it is respectfully submitted that the claims are properly allowable under both 35 USC 102(b) and 35 USC 103(a).

It is respectfully submitted that the application has now been brought into a condition where allowance of the case is proper. Reconsideration and issuance of a Notice of Allowance are respectfully solicited. Should the Examiner not find the claims to be allowable, Applicants' attorney respectfully requests that the Examiner call the undersigned to clarify any issue and/or to place the case in condition for allowance.

Respectfully submitted,



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